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PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in or relating to Draw-Off Apparatus for use with Containers for Liquefiable Gas

We, ARNOLDS (BRANBRIDGES) LIMITED, a British Company, of Branbridges, Paddock Wood, Tonbridge, Kent, and EDWARD JOHN HOLLINGUM, a British Subject, of "Tree Tops," Watling Street, Gravesend, Kent, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The invention relates to improvements in draw-off apparatus for use with containers for liquefiable gas. In the case of portable cutting equipment, such as for example, pack-type oxy-gas cutting sets, it may happen that in use the gas container is inverted or placed on its side with the result that liquid instead of gas may be discharged from the cylinder. The object of the present invention is to provide an improved draw-off apparatus which will ensure that only gas is discharged from the gas container whatever may be its position.

According to the invention draw-off apparatus for use with a container for liquefiable gas, comprises a valve adapted to be fitted to the outlet of a container, said valve being fitted with a tube through which it can communicate with the interior of a container, said tube having a small inlet aperture at its inner end and being of such length that when mounted in a container of regular shape, said aperture will coincide with the volumetric centre of the void enclosed by the container.

The draw-off apparatus is primarily intended for fitting to a gas container in the form of the usual cylinder, but it could if desired, be used with containers of other regular shape. Whatever the shape of the container however it is usual, in order to comply with standing safety regulations, to fill the container so that it contains liquefied gas up to slightly less than half of its total water capacity, thus whatever its position, the aperture at the end of the aforementioned tube is above the level of liquid in the container and consequently when the outlet valve is opened only gas is discharged from the container.

Since the container may be only slightly less than half filled with liquefied gas it is

important that the aforesaid tube is of narrow bore or is provided with a small aperture at its inlet end, so that when the cylinder is on its side the level of the liquefied gas is below the bore of the tube or the said aperture.

In order that the invention may be more readily understood reference will be made to the accompanying drawing which illustrates by way of example a preferred embodiment thereof.

In the drawing A is a metal cylinder shaped to withstand the high internal pressure to which it may be subjected. One end of the cylinder is provided with an internally threaded bush into which is screwed a needle or like valve B. Attached to the valve B and sealed thereto is a straight tube C having a bore of substantially the same diameter as the passage through the valve B. The tube C projects into the cylinder and is of such length that the centre of its bore at its open end coincides with the centre of the void enclosed by the cylinder.

In service the cylinder may contain liquefied gas to forty four per cent. of its total water capacity, which is the proportion laid down by statutory regulations. This quantity brings the level D of liquefied gas below the centre of the cylinder and also below the open end of the tube C. This condition is fulfilled whatever plane the axis of the cylinder is put into, thus ensuring the discharge of gas and not liquid from the cylinder.

What we claim is:—

1. Draw-off apparatus for use with a container for liquefiable gas comprising a valve adapted to be fitted to the outlet of a container, said valve being fitted with a tube through which it can communicate with the interior of a container, said tube having a small inlet aperture at its inner end and being of such length that when mounted in a container of regular shape, said aperture will coincide with the volumetric centre of the void enclosed by the container.

2. Draw-off apparatus according to Claim 1 wherein the said tube has a narrow bore and the aperture at the inlet end of the tube is formed by the open end of the bore.

3. Draw-off apparatus according to Claim

- 1 or 2 wherein the said valve is provided with a hollow threaded inlet spigot adapted to screw into a bush in one end of a gas container, said tube being smaller in diameter than said spigot and being fitted in the hollow end thereof.

4. Draw-off apparatus with use with a container for liquefiable gas having its parts

constructed, arranged and adapted to co-operate substantially as hereinbefore described with reference to the accompanying drawing.

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#### PROVISIONAL SPECIFICATION

### Improvements in or relating to Draw-Off Apparatus for use with Containers for Liquefiable Gas

We, ARNOLDS (BRANBRIDGES) LIMITED, of Branbridges, Paddock Wood, Tonbridge, Kent, a British Company, and EDWARD JOHN HOLLINGUM, "Tree Tops," Watling Street, Gravesend, Kent (British), do hereby declare this invention to be described in the following statement:—

- 20 An improvement to the fuel gas cylinder being that the outlet valve to the said cylinder

has a tube fitted into the base and the input part of the valve and this tube projects to the actual centre of the cylinder. The cylinder can then be filled with liquid to  $\frac{7}{16}$  of its full capacity and in whatever plane the cylinder may be placed, only gas will be drawn off.

E. J. HOLLINGUM

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1 SHEET

COMPLETE SPECIFICATION

*This drawing is a reproduction of  
the Original on a reduced scale.*

